



#5

Sequence Listing.ST25.txt  
SEQUENCE LISTING

&lt;110&gt; Novartis AG

&lt;120&gt; Selectable Marker Genes

&lt;130&gt; 4-31193A

&lt;160&gt; 10

&lt;170&gt; PatentIn version 3.0

&lt;210&gt; 1

&lt;211&gt; 2607

&lt;212&gt; DNA

&lt;213&gt; homo sapiens

&lt;400&gt; 1

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20gttgaagaag tggctacttt catgtgtgca gtggaatcct acccccagcc tgagatttcc 1  
80tggaactagaa ataaaattct cattaaactc ttgacaccc ggtacagcat ccgggagaat 2  
40gggcagctcc tcaccatcct gagtgtggaa gacagtgatg atggcattta ctgctgcacg 3  
00gccaacaatg gtgtgggagg agctgtggag agttgtggag ccctgcaagt gaagatgaaa 3  
60cctaaaataa ctgctcctcc cataaatgtg aaaataatag agggattaaa agcagtccta 4  
20ccatgtacta caatgggtaa tcccaaacca tcagtgtctt ggataaaggg agacagccct 4  
80ctcagggaaa attcccgaat tgcagttctt gaatctggga gcttgaggat tcataacgta 5  
40caaaaggaag atgcaggaca gtatcgatgt gtggcaaaaa acagcctcgg gacagcatat 6  
00

Sequence Listing.ST25.txt

C1  
 tccaaagtgg tgaagctgga atttgagggtt ttgcccagga tcctgcgggc tcctgaatcc 6  
 60  
 cacaatgtca cctttggctc ctttgtgacc ctgcactgta cagcaacagg cattcctgtc 7  
 20  
 cccaccatca cctggattga aaacggaaat gctgtttctt ctgggtccat tcaagagagt 7  
 80  
 gtgaaagacc gagtgattga ctcaagactg cagctgttta tcaccaagcc aggactctac 8  
 40  
 acatgcatag ctaccaataa gcatggggag aagttcagta ctgccaaggc tgcagccacc 9  
 00  
 atcagcatag cagaatggag taaaccacag aaagataaca aaggctactg cgcccagtac 9  
 60  
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 20  
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 80  
 gtagtgagcc cagtctgccg gccagctgct gaggctttgt tgtgtaacca catcttccag 11  
 40  
 gagtgcagtc ctggagtagt gcctactcct attcccattt gcagagagta ctgcttggca 12  
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 gtaaaggagc tcttctgccc aaaagaatgg ctggtaatgg aagagaagac ccacagagga 12  
 60  
 ctctacagat ccgagatgca ttgctgtcc gtgccaaaat gcagcaagct tcccagcatg 13  
 20  
 cattgggacc ccacggcctg tgccagactg ccacatctag attataacaa agaaaaccta 13  
 80  
 aaaacattcc caccaatgac gtcctcaaag ccaagtgtgg acattccaaa tctgccttcc 14  
 40  
 tcctcctctt cttccttctc tgtctcacct acatactcca tgactgtaat aatctccatc 15  
 00  
 atgtccagct ttgcaatatt tgtgcttctt accataacta ctctctattg ctgccgaaga 15  
 60

CI

Sequence Listing.ST25.txt

|   |    |
|---|----|
| agaaaacaat ggaaaaataa gaaaagagaa tcagcagcag taaccctcac cacactgcct<br>20 | 16 |
| tctgagctct tactagatag acttcatccc aaccccatgt accagaggat gccgctcctt<br>80 | 16 |
| ctgaacccca aattgctcag cctggagtat ccaaggaata acattgaata tgtgagagac<br>40 | 17 |
| atcggagagg gagcgtttgg aagggtgttt caagcaaggg caccaggctt acttccttat<br>00 | 18 |
| gaacctttca ctatggtggc agtaaagatg ctcaaagaag aagcctcggc agatatgcaa<br>60 | 18 |
| gcggactttc agagggaggc agccctcatg gcagaatttg acaaccctaa cattgtgaag<br>20 | 19 |
| ctattaggag tgtgtgctgt cgggaagcca atgtgcctgc tctttgaata catggcctat<br>80 | 19 |
| ggtgacctca atgagttcct ccgcagcatg tcccctcaca ccgtgtgcag cctcagtcac<br>40 | 20 |
| agtgacttgt ctatgagggc tcaggtctcc agccctgggc cccaccctct ctctgtgct<br>00  | 21 |
| gagcagcttt gcattgccag gcaggtggca gctggcatgg cttacctctc agaacgtaag<br>60 | 21 |
| ttgtttcacc gagatttagc caccaggaac tgccctggtg gcgagaacat ggtggtgaaa<br>20 | 22 |
| attgccgact ttggcctctc caggaacatc tactcagcag actactacaa agctaataaa<br>80 | 22 |
| aacgacgcta tccctatccg ttggatgcca ccagagtcca ttttttataa ccgtacact<br>40  | 23 |
| acagagtctg atgtgtgggc ctatggcgtg gtcctctggg agatcttctc ctatggcctg<br>00 | 24 |
| cagccctact atgggatggc ccatgaggag gtcatttact acgtgcgaga tggcaacatc<br>60 | 24 |
| ctctcctgcc ctgagaactg ccccgaggag ctgtacaatc tcatgcgtct atgttgagac<br>20 | 25 |

C1

Sequence Listing.ST25.txt

aagctgcctg cagacagacc cagtttcacc agtattcacc gaattctgga acgcatgtgt 25  
80

gagagggcag aggggaactgt gagtgtc 26  
07

<210> 2  
<211> 869  
<212> PRT  
<213> homo sapiens

<400> 2

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Arg | Glu | Leu | Val | Asn | Ile | Pro | Leu | Val | His | Ile | Leu | Thr | Leu | Val |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Ala | Phe | Ser | Gly | Thr | Glu | Lys | Leu | Pro | Lys | Ala | Pro | Val | Ile | Thr | Thr |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Pro | Leu | Glu | Thr | Val | Asp | Ala | Leu | Val | Glu | Glu | Val | Ala | Thr | Phe | Met |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Cys | Ala | Val | Glu | Ser | Tyr | Pro | Gln | Pro | Glu | Ile | Ser | Trp | Thr | Arg | Asn |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Lys | Ile | Leu | Ile | Lys | Leu | Phe | Asp | Thr | Arg | Tyr | Ser | Ile | Arg | Glu | Asn |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Gly | Gln | Leu | Leu | Thr | Ile | Leu | Ser | Val | Glu | Asp | Ser | Asp | Asp | Gly | Ile |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Tyr | Cys | Cys | Thr | Ala | Asn | Asn | Gly | Val | Gly | Gly | Ala | Val | Glu | Ser | Cys |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Gly | Ala | Leu | Gln | Val | Lys | Met | Lys | Pro | Lys | Ile | Thr | Arg | Pro | Pro | Ile |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Asn | Val | Lys | Ile | Ile | Glu | Gly | Leu | Lys | Ala | Val | Leu | Pro | Cys | Thr | Thr |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Met | Gly | Asn | Pro | Lys | Pro | Ser | Val | Ser | Trp | Ile | Lys | Gly | Asp | Ser | Pro |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Leu | Arg | Glu | Asn | Ser | Arg | Ile | Ala | Val | Leu | Glu | Ser | Gly | Ser | Leu | Arg |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Ile | His | Asn | Val | Gln | Lys | Glu | Asp | Ala | Gly | Gln | Tyr | Arg | Cys | Val | Ala |  |

C1

## Sequence Listing.ST25.txt

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 180   |     | 185 |     | 190 |
| Lys Asn Ser Leu Gly Thr Ala Tyr Ser Lys Val Val Lys Leu Glu Phe | 195 | 200 | 205 |     |
| Glu Val Phe Ala Arg Ile Leu Arg Ala Pro Glu Ser His Asn Val Thr | 210 | 215 | 220 |     |
| Phe Gly Ser Phe Val Thr Leu His Cys Thr Ala Thr Gly Ile Pro Val | 225 | 230 | 235 | 240 |
| Pro Thr Ile Thr Trp Ile Glu Asn Gly Asn Ala Val Ser Ser Gly Ser | 245 | 250 | 255 |     |
| Ile Gln Glu Ser Val Lys Asp Arg Val Ile Asp Ser Arg Leu Gln Leu | 260 | 265 | 270 |     |
| Phe Ile Thr Lys Pro Gly Leu Tyr Thr Cys Ile Ala Thr Asn Lys His | 275 | 280 | 285 |     |
| Gly Glu Lys Phe Ser Thr Ala Lys Ala Ala Ala Thr Ile Ser Ile Ala | 290 | 295 | 300 |     |
| Glu Trp Ser Lys Pro Gln Lys Asp Asn Lys Gly Tyr Cys Ala Gln Tyr | 305 | 310 | 315 | 320 |
| Arg Gly Glu Val Cys Asn Ala Val Leu Ala Lys Asp Ala Leu Val Phe | 325 | 330 | 335 |     |
| Leu Asn Thr Ser Tyr Ala Asp Pro Glu Glu Ala Gln Glu Leu Leu Val | 340 | 345 | 350 |     |
| His Thr Ala Trp Asn Glu Leu Lys Val Val Ser Pro Val Cys Arg Pro | 355 | 360 | 365 |     |
| Ala Ala Glu Ala Leu Leu Cys Asn His Ile Phe Gln Glu Cys Ser Pro | 370 | 375 | 380 |     |
| Gly Val Val Pro Thr Pro Ile Pro Ile Cys Arg Glu Tyr Cys Leu Ala | 385 | 390 | 395 | 400 |
| Val Lys Glu Leu Phe Cys Ala Lys Glu Trp Leu Val Met Glu Glu Lys | 405 | 410 | 415 |     |
| Thr His Arg Gly Leu Tyr Arg Ser Glu Met His Leu Leu Ser Val Pro | 420 | 425 | 430 |     |
| Lys Cys Ser Lys Leu Pro Ser Met His Trp Asp Pro Thr Ala Cys Ala |     |     |     |     |

C1

## Sequence Listing.ST25.txt

435

440

445

Arg Leu Pro His Leu Asp Tyr Asn Lys Glu Asn Leu Lys Thr Phe Pro  
 450 455 460

Pro Met Thr Ser Ser Lys Pro Ser Val Asp Ile Pro Asn Leu Pro Ser  
 465 470 475 480

Ser Ser Ser Ser Ser Phe Ser Val Ser Pro Thr Tyr Ser Met Thr Val  
 485 490 495

Ile Ile Ser Ile Met Ser Ser Phe Ala Ile Phe Val Leu Leu Thr Ile  
 500 505 510

Thr Thr Leu Tyr Cys Cys Arg Arg Arg Lys Gln Trp Lys Asn Lys Lys  
 515 520 525

Arg Glu Ser Ala Ala Val Thr Leu Thr Thr Leu Pro Ser Glu Leu Leu  
 530 535 540

Leu Asp Arg Leu His Pro Asn Pro Met Tyr Gln Arg Met Pro Leu Leu  
 545 550 555 560

Leu Asn Pro Lys Leu Leu Ser Leu Glu Tyr Pro Arg Asn Asn Ile Glu  
 565 570 575

Tyr Val Arg Asp Ile Gly Glu Gly Ala Phe Gly Arg Val Phe Gln Ala  
 580 585 590

Arg Ala Pro Gly Leu Leu Pro Tyr Glu Pro Phe Thr Met Val Ala Val  
 595 600 605

Lys Met Leu Lys Glu Glu Ala Ser Ala Asp Met Gln Ala Asp Phe Gln  
 610 615 620

Arg Glu Ala Ala Leu Met Ala Glu Phe Asp Asn Pro Asn Ile Val Lys  
 625 630 635 640

Leu Leu Gly Val Cys Ala Val Gly Lys Pro Met Cys Leu Leu Phe Glu  
 645 650 655

Tyr Met Ala Tyr Gly Asp Leu Asn Glu Phe Leu Arg Ser Met Ser Pro  
 660 665 670

His Thr Val Cys Ser Leu Ser His Ser Asp Leu Ser Met Arg Ala Gln  
 675 680 685

Val Ser Ser Pro Gly Pro Pro Pro Leu Ser Cys Ala Glu Gln Leu Cys

C1

## Sequence Listing.ST25.txt

| 690  | 695 | 700     |
|--|-----|---------|
| Ile Ala Arg Gln Val Ala Ala Gly Met Ala Tyr Leu Ser Glu Arg Lys<br>705 | 710 | 715 720 |
| Phe Val His Arg Asp Leu Ala Thr Arg Asn Cys Leu Val Gly Glu Asn<br>725 | 730 | 735     |
| Met Val Val Lys Ile Ala Asp Phe Gly Leu Ser Arg Asn Ile Tyr Ser<br>740 | 745 | 750     |
| Ala Asp Tyr Tyr Lys Ala Asn Glu Asn Asp Ala Ile Pro Ile Arg Trp<br>755 | 760 | 765     |
| Met Pro Pro Glu Ser Ile Phe Tyr Asn Arg Tyr Thr Thr Glu Ser Asp<br>770 | 775 | 780     |
| Val Trp Ala Tyr Gly Val Val Leu Trp Glu Ile Phe Ser Tyr Gly Leu<br>785 | 790 | 795 800 |
| Gln Pro Tyr Tyr Gly Met Ala His Glu Glu Val Ile Tyr Tyr Val Arg<br>805 | 810 | 815     |
| Asp Gly Asn Ile Leu Ser Cys Pro Glu Asn Cys Pro Val Glu Leu Tyr<br>820 | 825 | 830     |
| Asn Leu Met Arg Leu Cys Trp Ser Lys Leu Pro Ala Asp Arg Pro Ser<br>835 | 840 | 845     |
| Phe Thr Ser Ile His Arg Ile Leu Glu Arg Met Cys Glu Arg Ala Glu<br>850 | 855 | 860     |
| Gly Thr Val Ser Val  |     |         |

<210> 3  
 <211> 20  
 <212> DNA  
 <213> homo sapiens

<400> 3  
 cagaaggaac ttcgtcctgc  
 20

<210> 4  
 <211> 20  
 <212> DNA

C1

Sequence Listing.ST25.txt

<213> homo sapiens

<400> 4

acatgcgttc cagaattcgg  
20

<210> 5

<211> 42

<212> DNA

<213> homo sapiens

<400> 5

cgaggcctgt cttcaacctt agacactcac agttccctct gc  
42

<210> 6

<211> 27

<212> DNA

<213> homo sapiens

<400> 6

cggcctgtgc cagactgcca catctag  
27

<210> 7

<211> 31

<212> DNA

<213> homo sapiens

<400> 7

cgtctagggtg aggggtactgc tgctgattct c  
31

<210> 8

<211> 38

<212> DNA

<213> homo sapiens

<400> 8

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38

<210> 9

C1

Sequence Listing.ST25.txt

<211> 24  
<212> DNA  
<213> homo sapiens

<400> 9  
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24

<210> 10  
<211> 26  
<212> DNA  
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<400> 10  
ccagtcattgg agtatgtagg tgagac  
26

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